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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/762,524 | 01/23/2004 | Takashi Chuman | Q79540 | 5360 |
| 23373 | 7590 | 05/03/2007 | EXAMINER | |
| SUGHRUE MION, PLLC | | | SCOTT JR, THOMAS E | |
| 2100 PENNSYLVANIA AVENUE, N.W. | | | | |
| SUITE 800 | | | ART UNIT | PAPER NUMBER |
| WASHINGTON, DC 20037 | | | 2609 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/762,524 | CHUMAN ET AL. |
| | Examiner | Art Unit |
| | Thomas E. Scott Jr | 2609 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 January 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Abstract of the reference listed on the Information Disclosure Statement filed on January 23, 2004 has been considered by examiner; see attached PTO-1149.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Putilin et al. (U.S. 2004/0223218 A1).

- In claim 1, Putilin teaches an apparatus (display system – see Fig. 5) for displaying a three-dimensional image (multiple aspects of a stereoscopic image to create a three-dimensional viewing experience – see [0032]) of an object to

be displayed, through a superimposing of a plurality of images (via multiple stacked electronic transmissive displays – see [0032]) of said object, which are placed so as to be apart from each other on a line of sight of an observer (see Fig. 2), comprising:

- a first display unit having a first screen (distant display screen – 4);
- a second display unit disposed so as to face said first display unit, said second display unit having a second screen (near transmissive display screen – 6), which is light-transmissible; and
- a bonding member (spatial mask – 5) for connecting said first display unit and said second display unit with each other, said bonding member having a light transmission property and being a bonding agent with which a space between said first display unit and said second display unit is filled (see [0038]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4, 7-8, and 10-13 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. (2004/0008156 A1) in view of Putilin ('218).

- As to claim 7, Kuroda discloses an apparatus for displaying a three-dimensional image including
- a first display (display unit (12) comprising a first substrate (112) and a first luminescent layer (organic EL emitting layer – 111 formed on said first substrate (112) to emit light for displaying a first image (121) – see Fig. 1 and [0128]);
- a second display unit (display unit (11) comprising a second substrate (112), which is disposed to face said first substrate (112 of display unit (12)) and has a light transmission property (see [0128]), and a second luminescent layer (111 – see Fig. 10) formed on said second substrate to emit light for displaying a second image (111 – see Fig. 1) to be superimposed on said first image (121), wherein said first luminescent layer and said second luminescent layer are placed so as to be apart (d_0 – see Fig. 1) from each other on a line of sight of an observer (10). Kuroda does not teach first display unit being joined to an opposite surface of said second substrate to said second luminescent layer. Putilin teaches the joining of the first display unit and the second display via a spatial mask – 5 (see [0038]) in the line of sight of an observer (see Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the spatial mask of Putilin to join the display units of Kuroda because of the

capability to create a continuous 3D image field in a large viewing area with improved image quality (see [0020] of Putilin).

- As to claim 2, note the discussion of claims 1 and 7 above. Putilin does not teach substrates and electroluminescent layers as recited the claim. Kuroda teaches:
 - a first substrate ((112) of display unit (12)).
 - a first luminescent layer (111) emitting light to provide said first screen and a second luminescent layer emitting light to provide said second screen. (see Fig. 7 of Putilin and [0088] of Kuroda noting that an EL element can be used for both screens). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the spatial mask of Putilin to join the display units of Kuroda because of the capability to create a continuous 3D image field in a large viewing area with improved image quality (see [0020] of Putilin).
- As to claim 3, Putilin teaches said bonding member (spatial mask – 5 see [0038]) is disposed between said first display unit and the second display unit situated or arranged back-to-back. Kuroda teaches an opposite surface of said second substrate of said second luminescent layer (EL used for second display unit – 12 see [0088] and reducing L2 from first display unit), with said first display unit and said second substrate to be collocated together (see Fig. 10 and [0137]). Combining the teachings of Putilin and Kuroda would meet the claim limitation.

- As to claim 4, Putilin teaches said bonding member is disposed between said first display unit and said second display unit (spatial mask – see [0038]).
Kuroda teaches said first substrate has a light transmission property in an apparatus arranged to cause an opposite surface of said first substrate of said first luminescent layer and the opposite surface of said first substrate to said first luminescent layer to be placed together (see Fig. 12 and [0141] of Kuroda). Combining the teachings of Putilin and Kuroda would meet the claim limitation.
- As to claim 8, Kuroda teaches said first substrate has a light transmission property; and said opposite surface of said second substrate to said second luminescent layer is joined to an opposite surface of said first substrate to said first luminescent layer (see Fig. 12 and [0141]).
- As to claim 10, Kuroda teaches the first/second substrate (112) of the first (12) and second (11) displays respectively contain a glass substrate (117) – (see [0130]).
- As to claim 11, Putilin teaches said first display unit and said second display unit are disposed on the line of sight (visual lines – 205, 206) of said observer so that pixels of the first display unit correspond to pixels of said second display unit, respectively (see [0034] and [0036]).
- As to claim 12, Kuroda teaches said second display unit (first display unit – 11) comprises an organic electroluminescence display device (see [0128]).

- As to claim 13, Kuroda teaches said second substrate (polymer substrate - 112) comprises a polymer film (see [0130]).

7. Claims 5-6 and 9 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Putilin ('218) in view of Kuroda et al. ('156), and further in view of Garner et al. (U.S. 2004/0217702 A1).

- As to claim 5, note the discussion of Putilin and Kuroda above. Putilin and Kuroda do not teach refractive index. Garner teaches said bonding member (adhesive) has a same refractive index as that of at least one of said first substrate (encapsulant substrate – 1312 – see [0065] of Garner) and said second substrate (frit – 508 – deposited over the entire device – see [0043]). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the teaching of refractive index to the teachings of substrates of Kuroda and the bonding member of Putilin because it would improve emission efficiency of the displays (see [0003]).
- As to claim 6, Garner teaches said bonding agent is an optical adhesive (see [0092]).
- As to claim 9, Garner teaches said first substrate (transparent encapsulant substrate – 1212 thereby allowing more light to be emitted by the first substrate creating a brighter image on the rear screen of the instant invention) has a larger refractive index than that of said second substrate (see [0054]).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

- Bell et al. (U.S. 2005/0206582 A1) discloses a method of displaying images with perceived depth with parallel imaging screens.
- Koyama et al. (U.S. 2005/0285997 A1) discloses using parallax barrier means to provide a 3D display effect.

Inquiries

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thomas E. Scott, Jr. whose telephone number is (571) 270 1714. The examiner can normally be reached on Monday to Friday 7:30 AM – 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272 – 7772. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding

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the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217 – 9197 (toll free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, please call (800) 786-9199 (IN THE USA OR CANADA) or (571) 272 – 1000.

TESJR

Thomas E. Scott, Jr.

Examiner

Chanh Nguyen
CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER

27 April 2007